Improving Adolescent Girls' Well-Being Through Gender-Sensitive Sanitation in Suburban Bangladeshi Schools

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Abstract

In Bangladesh’s evolving educational sector, gender-responsive facilities remain notably deficient, especially in suburban schools. This qualitative study investigates the multilayered challenges faced by adolescent girls due to inadequate gender-sensitive sanitation amenities in suburban educational institutions of Bangladesh. Participants include female students, educators, parents, and representatives from NGOs, thereby offering a comprehensive stakeholder perspective. The research illuminates the intersecting influences of sociocultural norms and infrastructural shortcomings on the education and well-being of adolescent girls. Key findings highlight not only the lack of proper sanitation facilities but also the existing cultural stigmas and gaps in menstrual health awareness, which collectively impact academic performance and psychological health. The study calls for an integrated approach, involving both community education and infrastructural improvement, to create a transformative educational environment that promotes gender equity.

Keywords: Gender-Responsive Sanitation, Bangladesh Education, Adolescent Girls, Menstrual Health, Qualitative Study, Suburban Schools, Educational Equity, Psychological Well-being, Cultural Norms, Community Intervention.
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Introduction

Around the world, women grapple with various forms of discrimination, encompassing both physical and societal dimensions. Although Bangladesh has witnessed significant strides in the realm of education in recent decades, the extant educational framework remains inadequate for many women, notably those hailing from rural areas. The nation’s growth trajectory is likely to be hampered as long as equal educational participation of both genders remains elusive.

This study carries immense societal and policy implications. Not only does it spotlight the hurdles that adolescent girls face in pursuing an uninterrupted education due to the absence of gender-sensitive infrastructures, but it also identifies actionable steps to ameliorate these conditions. By focusing on suburban Bangladesh, an often-understudied context, this research serves as a pioneering initiative in directing attention to the very spaces that serve as arenas for education and socialization. This will, in turn, impact multiple stakeholders—government bodies, educational institutions, and NGOs—informing policy decisions and influencing educational practices for years to come.

Menstruation, a natural physiological phenomenon, has become a complex issue deeply embedded in societal norms and beliefs. In several cultures, menstruating women, perceived as "impure", find themselves marginalized and prohibited from engaging in daily pursuits like education, employment, and certain cultural or religious activities. This exclusion is compounded by societal taboos and stigmas associated with menstruation, leading to a pervasive culture of silence. As a result, accurate information on menstruation and menstrual hygiene remains scarce, which is further corroborated by studies like that of (The World Bank, 2018).

Intriguingly, while girls often surpass boys in terms of enrollment rates at the secondary education level, they lag behind in terms of completion rates. This discrepancy can be attributed to a plethora of factors ranging from gender inequality, societal pressures like child and forced marriages, dowry demands, unemployment, gender-based discrimination, to domestic violence. Such issues tend to be pronounced in regions marked by low female literacy rates.

Applying a gender-centric lens to scrutinize the infrastructure of educational institutions could offer insights into the intertwining nature of spatial and societal constructs. This research endeavors to delve into the spatial challenges confronted by suburban educational institutions in Bangladesh. It aims to shed light on gender-responsive environments while emphasizing the criticality of amenities like clean water, private restrooms, and awareness initiatives centered on menstrual health and hygiene in
schools. Addressing these concerns could pave the way for transformative changes, enabling adolescent girls to realize their right to quality education.

This study sets out to identify the hurdles women encounter in pursuing uninterrupted education, arising from the absence of gender-sensitive infrastructures in educational establishments, with a special emphasis on hygiene, sanitation, and their upkeep. To glean insights into the experiences of adolescent girls concerning gender-responsive spaces within these institutions, a qualitative methodology will be employed. This entails the organization of semi-structured interviews with female students. To further enrich the research, discussions will also be facilitated with other pertinent stakeholders—teachers, administrative staff, parents, and guardians—associated with suburban educational institutions.

Literature Review

Education stands as a cornerstone of national development. Achieving gender parity in education, especially by involving both boys and girls equally, is pivotal. Bangladesh, over the years, has made significant strides in enhancing its human development indicators, with the education of girls emerging as a remarkable achievement. In fact, the trajectory of girls' education in Bangladesh now serves as an exemplar for South Asian countries.

Historical Context and Current Status: From the 1980s onward, a marked surge in secondary school enrollments for girls in Bangladesh is evident. Specifically, enrollments rose from 39 percent in 1998 to 67 percent in 2017 (Soshale, Asaduzzaman, & Ramachandran, 2019). Yet, despite these promising statistics, challenges persist. The 2017 data from the Bangladesh Bureau of Educational Information and Statistics highlight an alarming dropout rate of 42 percent for girls at the secondary school level. Furthermore, a mere 59 percent achieve completion at the secondary level, and only 10 percent of students progress to grade 10.

Barriers to Gender-Responsive Education: Despite the uptick in enrollment figures, the educational outcomes for girls remain suboptimal. A myriad of factors, spanning socio-economic, socio-cultural, and stigma-related barriers, restricts them from completing even the primary education level.

A global perspective reveals that in developing countries, over half of primary schools lack the necessary water and sanitation facilities, which are vital for girls' education. Inadequate sanitation facilities, particularly during menstruation, lead young girls to miss
significant school days—up to 40 days in a single academic year (McCalla, nd). Such absences adversely affect their academic trajectory and, more broadly, their potential.

The Imperative for Gender Sensitivity in Schools: Schools, as foundational learning centers, should be the vanguard of gender sensitivity and responsiveness. Failing this, society is at risk of perpetuating a male-dominated paradigm. A critical concern lies within the confines of these institutions—spaces and social norms that limit women's developmental opportunities and their avenues for empowerment.

Importance of Gender-Sensitive Sanitation: Gender-sensitive sanitation services stand out as essential for educational equity. The lack of these services poses a significant hindrance to girls' school access, experience, and completion. Such services should encompass clean, safe, and gender-separated facilities, with requisite access to water and waste disposal, catering to the specific needs of all students, including adolescent girls (Sommer, Kwauk, & Fyles, 2018).

Moving Forward in Bangladesh: While Bangladesh's progress in upholding women's rights is laudable, gaps remain, especially in some rural areas. Crafting gender-responsive spaces necessitates an understanding of both practical and strategic gender needs. It's not merely about providing sanitation facilities but ensuring they are hygienically maintained, offering the privacy and security that girls need.

Methodology

This study employs a qualitative research design to obtain a nuanced understanding of the challenges related to gender-responsive sanitation facilities in sub-urban educational institutions in Bangladesh. The qualitative approach enables an in-depth exploration of social, physical, and psychological dimensions of the issue, gathering insights that might not be captured by quantitative methods.

Research Design

The central research question driving this study is: “What are the specific negative impacts of the lack of gender-responsive sanitation facilities on the educational attainment and well-being of adolescent girls in sub-urban educational institutions in Bangladesh, and what strategies could effectively address these issues to ensure safe, inclusive, and sustained education?”

To offer a multi-faceted understanding, the study is guided by five sub-questions:
1. What are the specific sociocultural and institutional factors that contribute to increased absenteeism among adolescent girls in sub-urban educational institutions?

2. What social, physical, and psychological challenges do adolescent girls face in institutions due to a lack of gender-responsive sanitary facilities?

3. How does the lack of a hygienic environment and gender-responsive sanitary amenities impact the academic performance and overall school engagement of adolescent girls?

4. What specific amenities and policy changes could be implemented to enhance the learning environment for adolescent girls and ensure their consistent attendance at school?

5. What strategies would be effective in raising awareness about menstrual health management in schools, and how could these be integrated into school curricula and community outreach programs?

Savar was selected as the research site because of its close proximity to Dhaka, making it a particularly relevant subject for examining the experiences and challenges in suburban education.

Data Collection
We employed semi-structured interviews as our principal data collection mechanism, prioritizing participant anonymity and confidentiality. A comprehensive demographic questionnaire was also employed, offering a richer contextual landscape for subsequent analysis.

Participant Selection
For this qualitative study, a total of 15 participants were purposively selected to participate in semi-structured interviews. The criteria for selection were multi-faceted, encompassing individual experiences, insights, perspectives, and availability for in-depth discussions to ensure a rich tapestry of viewpoints.

This stratified participant selection aims to cover a broad spectrum of experiences and perspectives, thereby enriching the study's findings and ensuring they are grounded in the complex social ecosystem surrounding the educational experiences of adolescent girls in suburban settings.

Participant Groups and Their Contributions to the Study

1. Adolescent Girls (Aged 13-17): Provide firsthand experiences and insights into the challenges faced in sub-urban educational settings.
2. Educational Staff: Offer institutional perspectives, including administrative procedures and policies affecting sanitation and education.

3. Parents/Guardians: Contribute a familial viewpoint, enriching the study's understanding of broader social factors affecting adolescent girls' education.

4. NGO Representatives: Add macro perspectives on female education, empowerment, and gender equity, and offer insights into potential interventions and policy shifts.

5. Sanitary Pad Manufacturers: Shed light on the market dynamics and practical challenges related to menstrual hygiene product availability and use.

Data Analysis
Upon completing the transcription of interviews, we conducted a qualitative content analysis using ATLAS.ti software. We initiated coding to categorize relevant data, followed by the identification of central themes. The next step involved synthesizing these themes to offer holistic interpretations of the research questions. To ensure validity, these preliminary findings underwent critical reviews within the research team. This rigorous approach to both analysis and internal validation aimed to enhance the reliability and credibility of the study's results.

Ethical Considerations
In alignment with the ethical research principles outlined by the (American Psychological Association, 2017), this study followed stringent guidelines to ensure participant confidentiality, data security, and minimal participant discomfort. Informed consent was obtained from all participants. Notably, to enhance the comfort and security of adolescent female participants, interviews were conducted in the presence of their parents, guardians, or responsible educational staff. This measure aimed to provide a supportive environment and adhere to ethical considerations specific to interviewing minors. The research rigorously complied with these ethical standards to maintain the integrity and trustworthiness of the research process.

Findings
The ensuing section unveils a multi-dimensional analysis from a rigorously conducted qualitative research study. It examines the ramifications of gender-insensitive sanitary facilities in educational institutions across Bangladesh. Derived from interviews with a heterogenous ensemble of key stakeholders—such as NGO professionals, public health experts, educational administrators, and more—the section is systematically segmented into various yet interconnected thematic domains:
1. Comparative Assessment: A critical examination of sanitary infrastructure in both urban and suburban schools.

2. Impact Analysis: An incisive look at how inadequate facilities detrimentally affect the educational and psychological well-being of adolescent girls.

3. Intersectional Factors: Exploration of auxiliary variables like financial constraints and societal attitudes impacting school attendance and dropouts.

4. Institutional and Household Barriers: Scrutiny of hurdles in Menstrual Hygiene Management (MHM) across educational and familial settings.

5. Socio-Cultural Dimensions: Investigation into the unique cultural and social variables influencing girls' educational experiences in suburban contexts.

Through a blend of empirical evidence and interpretative analysis, this section serves not only as a repository of substantiated insights but also constructs a compelling narrative. The aim is to shed light on the imperative need for gender-sensitive sanitary solutions and broader interventions within educational settings. Collectively, these findings uncover a gamut of persistent deficiencies, presenting a multifaceted understanding of the complex issues at hand.

Lack of Gender-Responsive Facilities Concerning Academic Performance and Overall School Engagement of Adolescent Girls

Comparative Status of Sanitary Facilities in Urban and Suburban Schools
Contrary to the general perception that sanitary facilities might vary between urban and suburban educational institutions, stakeholder interviews with non-profit organizations specializing in women's health and education reveal a uniform deficiency. While some private English medium schools in central Dhaka stand as exceptions, the prevailing conditions across most schools lack basic hygiene standards. Gender-segregated toilets, where available, suffer from inadequate cleanliness, improper construction, and absence of essential amenities like lighting and a reliable water supply, with no provision for menstrual hygiene products.

Impact of Inadequate Gender-Responsive Sanitary Facilities on Educational Outcomes
Interview data robustly substantiate the negative repercussions of insufficient gender-responsive sanitary facilities on various aspects of adolescent girls' educational experiences:

1. Increased Absenteeism: The absence of clean and private sanitary facilities precipitates recurrent absenteeism, especially during menstrual cycles,
interrupting the educational continuum and leaving significant lacunae in academic development.

2. Decline in Academic Performance: Resultant from both insufficient facilities and periodic absenteeism, there is a tangible decline in academic performance. The cycle of missed lessons and uncompleted assignments culminates in lowered grades and compromised educational outcomes.

3. Impaired Focus and Concentration: The lack of suitable amenities manifests as physical and psychological discomfort, hindering girls' ability to focus on educational tasks.

4. Diminished Self-Esteem: A sense of insecurity pervades the student experience, corroding self-esteem and confidence. This emotional toll further compromises the capacity for whole-hearted school engagement, inclusive of peer and teacher interactions.

5. Psychological Distress: Insufficient facilities induce a range of negative emotions—worry, embarrassment, and fear—further exacerbating stress and impacting overall mental well-being.

6. Restricted Participation in Extracurricular Activities: The compromised sanitary environment also inhibits participation in extracurricular activities, constraining opportunities for personal development, skill acquisition, and leadership.

**Dropouts: A Multifaceted Problem**

While inadequate sanitary facilities contribute to increased absenteeism and eventual dropouts, interviews suggest that this is not the sole factor. The complexity of this issue is evidenced by other contributing variables such as poverty and safety concerns, including harassment and bullying during school commutes, which collectively influence the decision to discontinue education.

**Challenges Faced by Suburban Adolescent Girls Due to Lack of Gender-Responsive Sanitary Facilities**

**Challenges in Urban Educational Institutions: Structural and Cultural Barriers**

NGO workers involved in Menstrual Hygiene Management (MHM) initiatives find multiple obstructions. These include restricted permissions to assess sanitary facilities in elite schools, resistance from institutions to external scrutiny, and difficulties in establishing the link between sanitary facilities and educational outcomes.

Interviews with stakeholders indicate the necessity of delicate negotiations, usually initiated through headmistresses or female teachers, to advance menstrual health programs. Moreover, manufacturers of sanitary products further elucidate the persistence
of menstrual taboos, revealing a cognitive dissonance where fathers, for example, prioritize education for their daughters but restrict their activities during menstruation.

The Nuanced Challenges in Sub-Urban Co-Educational Institutions

Stakeholder interviews highlight the range of challenges specific to suburban adolescent girls attending co-educational institutions. Notably, these challenges extend from the physical—such as unhygienic conditions and lack of privacy—to the social and psychological realms, including stigma, social exclusion, and compromised mental well-being.

In this setting, the stigma associated with menstruation is heightened due to male classmates’ lack of awareness and insensitivity. Adolescent girls emphasize the urgency of ‘normalizing’ menstruation to mitigate social judgment and stigma. Accordingly, menstrual health campaigns aim for holistic education, targeting both male and female students, and advocate for policy-level changes.

The Role of Households in MHM Education

Insights from a sanitary pad manufacturer reveal an educational gap at the household level. Parents, especially mothers, often lack the necessary literacy skills to educate their daughters about menstrual hygiene, a shortcoming that educational campaigns by NGOs and companies fail to address adequately.

Public Engagement Challenges in MHM Awareness Programs

Data from stakeholder interviews identify multiple obstacles in organizing public awareness seminars:

1. Cultural Stigma and Taboos: The social unease surrounding menstrual discussions necessitates sensitive and calculated strategies to tackle this deeply ingrained issue.
2. Knowledge Deficiency: A lack of public knowledge hampers broader engagement and necessitates public education.
4. Language and Literacy Barriers: Ensuring effective communication may require the incorporation of local languages or visual aids to transcend language and literacy obstacles.
Socio-cultural and Institutional Factors Contributing to Increased Absenteeism among Adolescent Girls in Sub-Urban Educational Institutions

Absenteism and Academic Performance
Data indicate a significant relationship between menstrual issues and school absenteeism among adolescent girls in suburban areas. Insufficient sanitary facilities and the absence of menstrual leaves contribute to girls missing classes and underperforming academically. Cultural norms around menstruation further exacerbate the issue, leading to stigmatization and, eventually, school dropouts.

Harassment and Bullying
Interviews with stakeholders reveal a disconcerting pattern of harassment and bullying in suburban coeducational schools. Girls face embarrassment both from male and surprisingly, female classmates, particularly when they have visible blood stains. Some girls eventually drop out of school as a coping mechanism.

Sub-standard Sanitary Facilities
Field observations and interviews with students and parents highlight deplorable sanitary conditions in schools across suburban districts. From scarcity of water to unclean toilets, the state of sanitary facilities discourages girls from attending school during their menstrual cycle. These conditions persist across a variety of educational settings, including government and privately-funded schools.

Sanitary Conditions in Urban Schools
The inadequate sanitary conditions are not limited to suburban schools; they are surprisingly prevalent even in renowned urban schools in Dhaka, further emphasizing the need for institutional reform.

Menstruation as a Taboo and Lack of Awareness
Both parental and societal unawareness contribute to the stigmatization and poor management of menstrual hygiene. The use of contraceptives to halt periods, without medical consultation, points to the dire need for awareness and education. Girls in areas with poor water quality even fear the health implications of using water for sanitary purposes.

Effective Strategies for Sustained Menstrual Health Management Education for Adolescent Female Students

Current Amenities and Support in Sub-urban Schools
Findings from interviews reveal that several sub-urban educational facilities have made strides in menstrual health management (MHM). Notably, one school offers
comprehensive sanitary facilities, maintained by janitorial staff, and a vending machine for sanitary pads. For students lacking financial means—especially pertinent in a setting where many come from economically disadvantaged backgrounds—the school provides free pads. Additionally, restrooms equipped for students feeling unwell, along with emergency medical provisions, are available. As a complementary measure, the school allows a three-day absence without penalties, offering supportive peers and classmates as resources for making up missed coursework. According to parents and guardians, recent upgrades also include the supply of drinking water and readily available sanitary pads.

**Strategies for Enhancing MHM**

Interviews with key stakeholders reveal a multi-faceted approach to MHM:

1. Facility Enhancement: Schools are increasingly integrating amenities like restrooms, medication, and first-aid kits. Some even have pads stored in the headmistress’s office.

2. NGO Partnerships: Collaboration with NGOs has resulted in awareness-raising comic books, improved toilet facilities in slums, and community maintenance initiatives. These programs have been recognized for their positive impact.

3. Policy Advocacy: NGOs are lobbying for the inclusion of MHM provisions in governmental strategy papers, advocating for multi-layered interventions that involve various stakeholders, including parents, teachers, and corporations.

4. Community Engagement: The ‘Snowball Effect’ strategy aims at a gradual awareness build-up in communities. The Emanzi model from Kenya, which encourages male participation in menstrual health matters, was cited as a promising strategy for implementation in Bangladesh.

5. Knowledge Dissemination: Workshops and educational materials aim at dispelling myths and empowering female adolescents. Efforts to challenge societal norms, such as promoting women in sports, were also highlighted.

**Table 1: Summary of Key Findings on Gender-Nonresponsive Sanitary Facilities in Educational Settings**

A summary of the key findings across different thematic areas of the study focusing on gender-nonresponsive sanitary facilities in educational settings. The table collates evidence-based insights gathered through qualitative interviews with key informants.

<table>
<thead>
<tr>
<th>Thematic Areas</th>
<th>Key Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparative Aspects: Urban vs. Suburban</td>
<td>Similar inadequacies in sanitary facilities across both settings.</td>
</tr>
</tbody>
</table>
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Multi-dimensional Impacts | Educational disruptions, academic underperformance, cognitive interference.
---|---
Intersectionality | Economic constraints and harassment also contribute to school dropouts.
Menstrual Hygiene Management (MHM) | Institutional resistance against external evaluations; societal taboos.
Socio-Cultural Factors | Social exclusion, body image issues, elevated stress and anxiety.
Public Awareness Challenges | Stigma, knowledge deficiency, resource constraints, language barriers.
Expectations for Improvement | Educational initiatives, sanitary product availability, hygiene kits, on-site healthcare.

Note: Interviewees’ recommendations, built on their diverse experiences, further enrich these findings. A more in-depth discussion and actionable insights derived from these recommendations will be presented in the subsequent “Recommendations” section.

Discussion

The findings of this study highlight pressing concerns surrounding the provision and maintenance of gender-responsive sanitary facilities in educational institutions across urban and suburban areas of Bangladesh. Several key themes and implications warrant critical discussion.

Revisiting the Concept of Gender-Responsive Amenities
First, our research elucidates the multi-dimensional impact of inadequate sanitary facilities on adolescent girls. It is not just the physical inadequacies, such as poor cleanliness and lack of basic amenities, but the resultant academic underperformance, emotional distress, and limited extracurricular engagement that demonstrate the complexity of the issue. Therefore, the provision of gender-responsive amenities is not a matter of mere convenience but essential for equitable educational experiences and mental well-being.

Bridging Awareness Gaps Through Education
There is an urgent need for educational interventions that go beyond the school environment. The absence of Menstrual Hygiene Management (MHM) education at the household level reveals a chasm that needs bridging. Schools should not just be the locus of change but should extend their educational reach into the community. Given the persisting stigma and cultural taboos, efforts like seminars and awareness campaigns could serve as vehicles for change, especially if they include both genders and multiple stakeholders.
The Significance of Stakeholder Collaboration

Our findings reiterate the essential role of multiple stakeholders in facilitating change. From educators to parents and NGO representatives, a concerted approach is required to address institutional and societal barriers. The surprising resistance against external evaluations of sanitary facilities from some schools underscores the need for building relationships with key decision-makers.

Learning from Global Models and Local Needs

International models such as the Young Emanzi Toolkit for Mentoring Adolescent Boys and Young Men (YouthPower Action, 2020) could serve as a template. However, their adaptation should account for local contexts, particularly in the face of paradoxes like the cognitive dissonance among fathers advocating education but adhering to menstrual taboos. These nuances suggest that a one-size-fits-all strategy is unlikely to be effective.

Towards Innovative Solutions and Fiscal Measures

The idea of innovative solutions like sanitary product vending machines should not be overlooked. Tax relaxations on menstrual hygiene products and grants for schools could facilitate these solutions and shift societal norms. Our study validates that investing in sanitary provisions is not just a social issue but an educational and public health imperative as well.

Recommendations

This section aims to offer a structured roadmap for addressing menstrual health challenges in educational settings based on research findings. A comprehensive approach has been adopted, attributing actions to specific stakeholders for effective implementation.

Key Focus Areas

1. Infrastructure and Sanitation: Immediate measures are needed for accessible sanitary facilities. Ensuring cleanliness, security, and well-lit toilets are integral parts of the strategy. Our research highlights a critical lack of these facilities across urban and suburban schools.

2. Awareness and Holistic Education: A consistent gap in Menstrual Hygiene Management (MHM) awareness necessitates the immediate incorporation of MHM into school curricula. Parental outreach programs are recommended for extending this awareness into the community.
3. **Policy and Support Measures:** Addressing the high rates of absenteeism among adolescent girls during their menstrual cycles is essential. Waiving penalties for short-term absences can be a practical mitigative strategy.

4. **Community Engagement and Societal Norms:** A long-term focus on societal change is vital. Models like the Emanzi Toolkit offer community-based programs that can involve males and address existing stigmas.

5. **Innovative Collaborations:** To ensure sustainability and scalability, we recommend collaborations with tech companies for IoT-enabled sanitary vending machines.

6. **Feedback Mechanism:** A continuous feedback system aligns well with a participatory research model, facilitating stakeholder involvement and ongoing improvement.

### Table 2: Action Plan for Addressing Menstrual Health Challenges in Educational Settings

This table serves as a quick reference guide, summarizing the key actions, timelines, and responsibilities for effectively addressing menstrual health challenges in educational settings. Each action is aligned with the findings and observations from this research.

<table>
<thead>
<tr>
<th>Area of Focus</th>
<th>Actions</th>
<th>Timeline</th>
<th>Responsibility</th>
<th>Linked Findings</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Infrastructure and Sanitation</strong></td>
<td>Accessible sanitary facilities, Maintenance and security</td>
<td>Immediate, Short-term</td>
<td>Schools, Local Governments</td>
<td>Lack of sanitary facilities</td>
<td>Research Data</td>
</tr>
<tr>
<td><strong>Awareness and Education</strong></td>
<td>MHM in curricula, Parental outreach</td>
<td>Immediate, Short-term</td>
<td>Schools, NGOs</td>
<td>Lack of awareness</td>
<td>Research Data, NGO Worker, Parents</td>
</tr>
<tr>
<td><strong>Policy and Support Measures</strong></td>
<td>Waive penalties for absences, Collaboration with NGOs</td>
<td>Medium-term</td>
<td>Ministry of Education, Schools</td>
<td>High rates of absenteeism</td>
<td>Research Data, Teacher in Suburban School</td>
</tr>
<tr>
<td><strong>Community Engagement</strong></td>
<td>Adopt Emanzi Toolkit (YouthPower Action, 2020), Peer support systems</td>
<td>Long-term</td>
<td>NGOs, Community Leaders, Schools</td>
<td>Stigmas and misinformation</td>
<td>Research Data, NGO Employee, Youth Leaders</td>
</tr>
</tbody>
</table>
Conclusion

The profound impacts of inadequate gender-responsive sanitation facilities on the academic achievements and mental well-being of adolescent girls in suburban educational settings have become glaringly evident. These challenges are not isolated but intersect with broader societal issues – including the overall education of females, sanitation, hygiene practices, and the essential need for gender-specific spaces conducive to quality education.

Addressing these challenges is not merely about enhancing education but resonates with larger global aspirations, including the Sustainable Development Goals. By nurturing environments that are sensitive to the needs of these young girls, we can influence a cascade of positive outcomes across hygiene, education, and gender equity.

As we advocate for the rights and well-being of these young minds, it becomes imperative for all stakeholders – educational institutions, local authorities, and the larger community – to adopt a holistic approach. This involves not only provisioning facilities but ensuring their aptness, privacy, maintenance, and security.

It's high time we shift paradigms, applying and refining policies that cater to the nuanced needs of adolescent girls, thereby transforming hygiene management in educational settings across Bangladesh. Every step we take in this direction is a stride towards an inclusive, educated, and empowered society.

Acknowledgment

We wish to extend our deepest gratitude to all the individuals who generously dedicated their time and shared their invaluable experiences, which were instrumental in shaping this research. Their collaboration and insights were indispensable to the realization of this project.

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Lastly, we wish to acknowledge the constant support and input of our peers, mentors, and the academic community that enriched this research at various stages.

Future research opportunities

Our qualitative study delves deeply into the unique experiences and challenges adolescent women face in their educational pursuits. To complement and augment these findings, future research in suburban Bangladesh should encompass:

1. Mixed-Methods Exploration: Pairing our qualitative data with quantitative metrics can offer a holistic view. This can illuminate how sanitation facilities correlate with tangible markers, like school attendance and academic outcomes.
2. Behavior Change Interventions: The digital age offers multiple avenues for interventions. Assessing the efficacy of tech-enabled or community-driven programs can help pinpoint best practices for fostering positive menstrual health behaviors.
3. Menstrual Waste Management: As sustainability becomes a global priority, understanding and promoting environmentally friendly menstrual waste disposal in schools is critical. This also addresses health implications of different disposal methods.
4. Policy Analysis: An in-depth look at current policies will shed light on possible financial barriers, such as taxes on sanitary products, that could be hindering menstrual health progress.
5. Sustainable Sanitation Innovations: Before introducing alternatives like reusable or biodegradable products in schools, gauging their effectiveness and acceptance within the cultural context of suburban Bangladesh is crucial.
6. Cultural Influences: Grasping societal norms is essential. Research dedicated to this aspect can offer insights into shaping interventions that align with or gently challenge existing beliefs.
7. Long-term Impact Study: Beyond immediate outcomes, understanding the long-term ripple effects of improved menstrual health facilities—on academic trajectories and overall mental health—provides a more comprehensive picture.

By following these research trajectories, we can develop strategies rooted in evidence, aiming to substantially uplift the menstrual health landscape in schools and enhance the overall well-being of students in suburban Bangladesh.

Declaration of interest

The authors declare that there are no conflicts of interest in conducting this study.

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